



Division of Waste Management  
Superfund Branch - Petroleum Cleanup Section  
200 Fair Oaks Lane, 2nd Floor  
Frankfort, KY 40601

Closure Report for Petroleum Releases and  
Exempt Petroleum Tank Systems  
DEP 7097C

Revised September 2011

**Note 1:** On March 18, 2004, Kentucky enacted a new cleanup regulation (401 KAR 100:030), which establishes standards under KRS 224.01-400 and 224.01-405 with respect to hazardous substances, pollutants, contaminants, petroleum, and petroleum products that are protective of human health, safety, and the environment. This administrative regulation governs remediation under KRS 224.01-400 and 224.01-405, 224.01-510 through 224.01-532, and 224.01-450 to 224.01-465.

**Note 2:** On June 8, 2011, the Superfund Branch of KDWM, adopted the USEPA Regional Screening Levels to replace the 2002 Region 9 PRGs. The Region 9 PRG table has been updated and is now called the *Regional Screening Level (RSL) table*. The RSL table should be used in the same way that the PRGs have been used in the past. It is anticipated that the RSLs will be updated approximately semiannually in the fall and spring. Please take note of the "What's New" page at the EPA RSL website to identify when toxicity values are updated. You can access the RSL tables at: <http://www.epa.gov/region9/superfund//prg/index.html>. Other helpful links are listed under **Regional Screening Level Resources** at the right of that page. The "Summary Table" is the one that most resembles the PRGs and will be the one that you are most likely to use.

The purpose of this form is to document the remediation of any site impacted by releases of petroleum products and the closure of petroleum tank systems which are **NOT** regulated under 401 KAR Chapter 42 (the Underground Storage Tank Program). **New evaluation procedures have been implemented for screening and remediating sites.** This evaluation process requires calculations for determining contaminants of concern (CoCs) and the associated cancer risks and non-cancer hazards. Please note that sites with multiple contaminants must consider additivity when determining overall site risk. **Therefore, individual RSL values are not directly compared to individual sample results when screening or remediating sites with multiple contaminants of concern.**

For a detailed listing of tanks not regulated under the Underground Storage Tank Program, refer to 40 CFR Part 280. Registration and Notice of Intent to Close these tanks and/or release sources is not required. While the use of this form is not required, the information on this form must be submitted to the Cabinet to receive a letter documenting closure of the site in accordance with KRS 224.01-405. **This form is not to be used for the closure of underground storage tanks regulated under 401 KAR Chapter 42.** For information on closure requirements for underground storage tanks regulated under 401 KAR Chapter 42, you may contact the Underground Storage Tank Branch at (502) 564-5981.

**FOR PETROLEUM RELEASES AND  
UNREGULATED (EXEMPT) PETROLEUM TANK SYSTEMS**

**SECTION I  
Facility Information**

1. Name of Facility \_\_\_\_\_  
Name of person or other legal entity which owns the facility or property \_\_\_\_\_  
Mailing Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_  
Contact Person \_\_\_\_\_ Phone Number (     ) \_\_\_\_\_  
E-mail address \_\_\_\_\_
  
2. Address of facility or property if different from items # 1. \_\_\_\_\_  
City \_\_\_\_\_ County \_\_\_\_\_ Zip Code \_\_\_\_\_  
Contact Person \_\_\_\_\_ Phone Number (     ) \_\_\_\_\_  
E-mail address \_\_\_\_\_
  
3. Facility/Property Location \_\_\_\_\_ Latitude \_\_\_\_\_ Longitude \_\_\_\_\_
  
4. Facility ID number (if applicable) \_\_\_\_\_
  
5. Tank or Release Location (explain)  
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**Name, address, & phone number of person(s) performing contract work (removal or assessment)**

6. Name/Company Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ County \_\_\_\_\_ State \_\_\_\_\_  
Zip Code \_\_\_\_\_ Phone (     ) \_\_\_\_\_  
E-mail address \_\_\_\_\_

7. Number of Tanks and/or Petroleum Releases to be closed at this site.

a) **Substances currently or previously stored in Tank(s) or Released (Indicate appropriate dates).** Answer all relevant questions to the extent possible. Any questions not applicable to tank or release should be marked "NA". For petroleum releases, sections b and c must also be completed.

Substance Stored in Tank(s) or Released	Release or Tank No. ____				
<b>Tank/Release Content Information</b>					
Kerosene					
Leaded Gasoline					
Unleaded Gasoline					
Diesel					
Waste Oil					
Heating Oil					
Other (List Product)					
Unknown					
<b>Tank Information</b>					
Size of Tanks (gals)					
Date of Installation					
Date of Last Use					
Above Ground Tank (AG) Underground Tank (UG)					
<b>Release Information</b>					
Volume Released (gals)					
Volume Recovered (gals)					
Date Release Discovered					
Release Reported? (yes or no)					
Incident/Tempo AI Number (if applicable)					

b) **Type of Petroleum Release (explain)**

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c) In the space below, provide a brief explanation of how each release occurred. Include any measures taken to prevent similar releases in the future if possible. Attach additional sheets if needed.

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8. Type of closure requested for each tank or petroleum release. Enter tank or release number(s) if applicable from item 7 a). A brief discussion of closure options is included in **Appendix A of the Instruction Booklet for form DEP 7097C, revised September 2011.**

- a) \_\_\_ Clean closure (**underground storage tanks only**). Sections I, II, and V.
- b) \_\_\_ Closure in-place (**UST's and/or piping**). Sections I, II, and V.
- c) \_\_\_ Clean closure (**above ground tanks and surface releases**). Sections I, II, and V.
- d) \_\_\_ Risk Assessment. Sections I, III and V.
- e) \_\_\_ Site Treatment. Sections I, IV and V.

9. If the tank(s) or piping are to be closed in place, provide justification (technical, environmental, etc.) for leaving the tank(s) and/or piping in place. If more space is needed, attach additional sheets.

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10. Please submit the following as **Attachments A and B**:

- a) A site map drawn to scale with north arrow; showing the location and source of the release, tanks, piping, ancillary equipment, buildings, roads, etc. (**Attachment A**).
- b) A USGS 7.5 minute topographic map showing the location of the site. (**Attachment B**).

List the map quadrangle name \_\_\_\_\_

*After completing the appropriate section, please remember to sign the applicant certification in Section V.*

**SECTION II**  
**Clean Closure or Closure in-place Under Item 8 (a), (b) or (c)**

**CLOSURE OF A TANK OR TANK SYSTEM**

11. Did the tank contain any sediment and/or residual free product?      \_\_\_ Yes      \_\_\_ No

If yes,

- a) How much free product was removed? \_\_\_\_\_  
Disposal location (**Attachment C**) \_\_\_\_\_
- b) How much sediment was removed? \_\_\_\_\_  
Disposal location (**Attachment C**) \_\_\_\_\_
- c) Provide the proper documentation (receipts or manifests) for disposal of any sediment or free product (label as **Attachment C**).

*Any sediment remaining in the tank must be properly characterized to determine if it will be regulated as a hazardous waste. This must be done by Toxicity Characteristic Leaching Procedure (TCLP) and must comply with EPA SW-846 test methods. If the TCLP analysis indicates that the sediment is not a hazardous waste, it may be solidified and taken to a contained landfill for disposal. If the analysis indicates that the sediment is hazardous, contact the Division of Waste Management, Hazardous Waste Branch at (502) 564-6716 for further information.*

12. Has the tank been removed from the site?      \_\_\_ Yes      \_\_\_ No

- a) If yes, what was the final disposal location of the tank?  
\_\_\_\_\_
- b) Provide the proper documentation for disposal of the tank and label as **Attachment D**.
- c) If the tank was closed in place, what inert solid material was used to fill the tank (i.e. concrete, sand, gravel, etc.)? \_\_\_\_\_

**CLOSURE OF PETROLEUM RELEASES**

Closure of petroleum releases from AST's and other sources can be achieved through removal of the contaminants to acceptable levels **based on the current update of the RSLs**.

- 13. The pit walls, floor, stockpiled soils, and any water collected in the pit must be sampled separately. See item 16 below and **Table A** on page 5 for analytical requirements. Provide copies of all analyses, chain of custody documents and a legible sampling map that shows a labeled sample point for each sample collected as **Attachment E**. **NOTE: All sample results must be identified by location (ex. North wall, South wall, Floor, etc.).**
- 14. Submit receipt(s) to document the total amount of excavated soil accepted by a disposal facility and label as **Attachment F**. **Please note that the documents submitted to verify disposal must clearly identify the disposal facility.**
- 15. If soil samples must be taken to demonstrate **background levels** for **inorganic constituents** at the site, **locate these sample point(s) on the site map listed in item 10 a)**. Provide copies of the analyses and chain of custody documents labeled as **Attachment G**. **Background sampling must be conducted in accordance with the RSL User's Guide, section 3.2 and the Kentucky Guidance for Ambient Background Assessment (January 8, 2004) [found in Appendix B of the Instruction Booklet for form DEP 7097C, revised September 2011].**
- 16. Analytical requirements for common petroleum products are listed in **Table A** on page 5. For petroleum products not listed, please contact the Superfund Branch.

**Table A**  
**Analytical Requirements for Petroleum Tanks/Releases**

<b>Petroleum Substance</b>	<b>Analysis</b>	<b>Acceptable Method</b>
Unleaded Gasoline	BTEX	SW-846 8340, 8260, 8020, or 8021
Leaded Gasoline and Tanks in use prior to 1977	BTEX and Total Lead *	
Crude Oil + or Kerosene, or Jet Fuel	BTEX and PAH	
Diesel or Heating Fuel	PAH	SW-846 8100, 8270, or 8310
Waste Oil	PAH and Total Metals **	SW-846 8100, 8270, or 8310 SW-846 6010
New Oil, Hydraulic Oil or Mineral Oil	TPH and PAH ***	SW-846 8015B (soil) EPA Method 1664A (water)
Other Petroleum or Non-Petroleum Substances	Contact the Superfund Branch	

BTEX: Benzene, Toluene, Ethylbenzene, and Xylene

PAH: Polynuclear Aromatic Hydrocarbons

TPH: Total Petroleum Hydrocarbons

\* For leaded gasoline or for any tanks that stored gasoline and were in use prior to 1977, total lead must be analyzed in addition to BTEX. SW-846 methods 7420, 7421, or 6010 must be used.

\*\* Total Metals: Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, and Silver.

\*\*\* For releases of new oil, hydraulic oil, and other petroleum substances, media analyses by extensions of SW-846 lab methods may also be used. The Superfund Branch should be contacted for further information.

+ A survey for naturally occurring radioactive material (NORM) concentrations for Radium 226 and Radium 228 may be required.

**Note: Disposal facility may require additional testing of contaminated waste material including TCLP before accepting for disposal. Contact the disposal facility in advance.**

- Clean closure for unregulated UST's and petroleum releases from AST's and other sources can be achieved through **removal of the contaminants to acceptable levels based on the current update of the RSLs, used in accordance with the RSL User's Guide and other guidance documents established in 401 KAR 100:030.** This evaluation process requires calculations for determining contaminants of concern (CoCs) and the associated cancer risks and non-cancer hazards. Please note that sites with multiple contaminants must consider additivity when determining overall site risk. **Therefore, individual RSL values are not directly compared to individual sample results when screening or remediating sites with multiple contaminants of concern.**

**Table B**  
**Cleanup Standards for AST's, Surface Releases and Exempt UST's**

Parameter	Soil	Groundwater
BTEX	Use Residential RSLs as the initial screening levels	B: 0.005 ppm T: 1.0 ppm E: 0.7 ppm X: 10.0 ppm
PAH	Use Residential RSLs as the initial screening levels	cPAH: 0.0002 ppm nPAH: Use the RSL tap water numbers Naphthalene: 0.14 ppb
TPH	No carcinogenic PAH constituent present above RSL screening levels; each individual PAH constituent must be below RSL screening levels. <b>Residential TPH - 100 ppm;</b> <b>Industrial TPH - 250 ppm</b>	5.0 ppm
Total Lead	Use Residential RSLs as the initial screening levels	0.015 ppm
Total Metals	Use RSLs as the initial screening levels and Table 2, page 19, <b>Generic Statewide Ambient Background for Kentucky</b> found in Kentucky Guidance for Ambient Background Assessment (1/8/04) [in Appendix B of the Instruction Booklet for form DEP 7097C, revised September 2011].	<b>MCL's* or RSL Tap Water Numbers</b> for constituents not found on the MCL list.

**BTEX:** Benzene, Toluene, Ethylbenzene, and Xylene (total)

**PAH:** Polynuclear Aromatic Hydrocarbons:

**cPAH:** Allowable level individually for Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Dibenz[a,h]anthracene, Indeno[1,2,3-cd]pyrene, Naphthalene and Chrysene.

**nPAH:** Allowable level individually for Acenaphthene, Anthracene, Fluoranthene, Fluorene, Pyrene.

	Soil Action Levels		Groundwater Action Levels
<b>Acenaphthylene</b>	<b>Residential - 3,400 ppm</b>	<b>Industrial - 33,000 ppm</b>	<b>Tap Water – 2,200 ppb</b>
<b>Benzo(ghi)perylene</b>	<b>Residential - 1,700 ppm</b>	<b>Industrial - 17,000 ppm</b>	<b>Tap Water – 1,100 ppb</b>
<b>Phenanthrene</b>	<b>Residential - 3,400 ppm</b>	<b>Industrial - 33,000 ppm</b>	<b>Tap Water – 2,200 ppb</b>

**ppm:** parts per million (mg/kg) or (mg/L)

**ppb:** parts per billion (µg/kg) or (µg/L)

**TPH:** Total Petroleum Hydrocarbons

**\*Maximum Contaminant Level - Federal Drinking Water Standards**

### SECTION III Risk Assessment Under Item 8 (d)

See **Appendix A** of the instruction booklet for general guidance on risk-based cleanup options. Questions concerning risk assessment procedures should be directed to the Risk Assessment Section of the Superfund Branch at (502) 564-6716. All risk assessment reports must be submitted to the Superfund Branch and these will be referred to the Risk Assessment Section for review. Closure by risk assessment requires submittal of a risk assessment or risk screening information sufficient to demonstrate that no further action is necessary (Option A), or a human health and ecological risk assessment along with a plan to manage the release (Option B), in accordance with KRS 224.01-400 (18) to (21).

### SECTION IV Site Treatment Under Item 8 (e)

Those facilities choosing to treat petroleum-contaminated soils or groundwater, must address all of the items listed below in a detailed **Corrective Action Plan (CAP)** designed to remediate affected soils and/or groundwater to allowable levels. The CAP should be submitted to the Superfund Branch for approval prior to starting any treatment. Label the CAP as **Attachment H**. Acceptable levels are based on the **current update of the RSLs, used in accordance with the RSL User's Guide and other guidance documents established in 401 KAR 100:030**. This evaluation process requires calculations for determining contaminants of concern (CoCs) and the associated cancer risks and non-cancer hazards. Please note that sites with multiple contaminants must consider additivity when determining overall site risk. **Therefore, individual RSL values are not directly compared to individual sample results when screening or remediating sites with multiple contaminants of concern.** The CAP must include the following information:

- A discussion of the soils, geology, and hydrogeology of the site
- Summary of site characterization and related information
- Soil and/or groundwater remedial objectives
- Comparative treatment technologies given consideration for the site
- Selected treatment technology; and criteria used to select this technology
- Results of any pilot or feasibility studies conducted
- Permits required for the treatment system (air emissions, Underground Injection Control, KPDES, etc.)
- Monitoring plan and time table for remediation and closure
- Closure plan (confirmation sampling plan for target contaminants in soil and/or groundwater)
- Waste handling methods
- Storm water control plan to prevent off-site migration of contaminants
- Revegetation plan for disturbed areas
- Any other technology specific requirements (Ex: thin-spreading - list type and thickness of liner)

For further information on treatment technologies and site-specific considerations in choosing a technology, contact the Superfund Branch Petroleum Cleanup Section.

A **Corrective Action Report (CAR)** must be submitted to the Superfund Branch **within thirty (30) days of receipt of sample results** confirming that allowable levels of contaminants in soil and/or groundwater have been achieved. For **long-term treatment sites** (treatment exceeding six months), a **quarterly status report must be submitted** which summarizes the work that has been conducted and includes results of any sampling done at the site.

18. Amount of soil to be treated \_\_\_\_\_ (yd<sup>3</sup> or tons)

**Type of proposed soil or groundwater treatment**

- a) \_\_\_\_ Aeration (thin-spreading requires liner)
- b) \_\_\_\_ Thermal treatment
- c) \_\_\_\_ Bioremediation
- d) \_\_\_\_ Soil vapor extraction
- e) \_\_\_\_ Bioventing
- f) \_\_\_\_ Air sparging
- g) \_\_\_\_ Pump and treat
- h) \_\_\_\_ Other \_\_\_\_\_

19. Location of the treatment area if different from tank/release location in Section I. Provide a copy of U.S.G.S. 7.5 minute topographic map if applicable. \_\_\_\_\_

**20. Treatment Period**

- a) Date when treatment is to start \_\_\_\_\_
- b) Date of the expected completion \_\_\_\_\_

**21. Company performing treatment**

Name of Company \_\_\_\_\_  
Contact Person \_\_\_\_\_  
Mailing Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Phone (     ) \_\_\_\_\_ Email \_\_\_\_\_

**22. Provide the following information if the soil is to be treated at a permitted off-site treatment facility.**

Name of facility \_\_\_\_\_  
Permit/Registration # \_\_\_\_\_  
Contact Person \_\_\_\_\_ Phone (     ) \_\_\_\_\_

**SECTION V  
Applicant Certification**

An authorized agent must sign the certification. Example: owner, president, vice-president, plant manager, plant engineer, mayor, city engineer, or other appropriate official. The applicant signature below **CANNOT BE** the consultant or broker.

**"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for such violations."**

\_\_\_\_\_ Title

Print Name of Applicant

\_\_\_\_\_ Date

Signature of Applicant

\_\_\_\_\_  
Signature of Consultant/Engineer (if application was prepared by a consultant)

Kentucky P.E. or P.G. Registration No. \_\_\_\_\_

Pursuant to KRS 322, any work constituting the public practice of engineering shall be performed by a Professional Engineer (P.E.) registered with the Kentucky Board of Registration for Professional Engineers and Land Surveyors. Pursuant to KRS 322A, any work constituting the public practice of geology shall be performed by a Professional Geologist (P.G.) registered with the Kentucky Board of Registration for Professional Geologists or a Professional Engineer (P.E.) registered with the Kentucky Board of Registration for Professional Engineers and Land Surveyors.

Subscribed and sworn to before me by \_\_\_\_\_

This the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_

State of \_\_\_\_\_, County of \_\_\_\_\_

Notary Public Signature \_\_\_\_\_

My commission expires \_\_\_\_\_

**\*\*\*IMPORTANT REMINDER\*\*\***

**All Signatures Must Be Original. PHOTOCOPIES WILL NOT BE ACCEPTED.**

## ATTACHMENTS

- A. A site map showing the location of the tanks, piping, ancillary equipment buildings, roads, etc.
- B. A USGS 7.5 minute topographic map showing the location of the site.
- C. Documentation for the disposal of any sediment or free product.
- D. Documentation (such as receipts) for the disposal of the tank(s).
- E. Copies of all laboratory analytical results for the testing of the pit walls, floor, stockpile area, and pit water (if encountered), including all chain of custody documents and a legible sampling map that shows a labeled sample point for each sample collected.
- F. Documentation (such as receipts) for the disposal of the contaminated soil excavated from the site, which clearly identifies the disposal facility.
- G. Copies of analytical results and chain of custody documents for samples taken to demonstrate background levels for inorganic constituents at the site.
- H. Corrective Action Plan (CAP) detailing proposal to treat soils and/or groundwater. Groundwater must be remediated to Federal Drinking Water MCL's (Maximum Contaminant Levels) or RSL Tap Water numbers for constituents not found on the MCL list.

**There are three constituents' levels that are not listed on the RSL Table under the Soil or Tap Water numbers. The following levels should be applied to these three constituents:**

	Soil Action Levels		Groundwater Action Levels
Acenaphthylene	Residential - 3,400 ppm	Industrial - 33,000 ppm	Tap Water – 2,200 ppb
Benzo(ghi)perylene	Residential - 1,700 ppm	Industrial - 17,000 ppm	Tap Water – 1,100 ppb
Phenanthrene	Residential - 3,400 ppm	Industrial - 33,000 ppm	Tap Water – 2,200 ppb